



WHIRLPOOL AUSTRALASIA

CONSUMER SERVICES

SERVICE MANUAL

**FRONT LOAD
WASHING MACHINE**

**Model AWM5100
Version 8570 510 53000**

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This documentation is intended only for qualified technicians who possess the required qualifications and are aware of the regulatory requirements applicable to servicing electrical appliances.

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TECHNICAL DATA**Dimensions**

Height	845	mm
Width	595	mm
Depth	595	mm

Weight

Nett	73	kg
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Mains Connection

Voltage	230 - 240	V
Frequency	50	Hz
Power consumption	2.3	kW

Drum

Volume	48	l
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Capacity of dry laundry

Cotton/coloured	5.5	kg
Cotton rapid	3	kg
Cotton short	5	kg
Easy care	2.5	kg
Easy care rapid	1.5	kg
Easy care short	2.5	kg
Delicate	1.5	kg
Wool	1	kg

Water Level (as sensed by the pressure switch)

Level 1		
Switching point	60 ± 5	mmWc
Reset point	35 ± 5	mmWc
Overflow	280 ± 20	mmWc

Water (level visible inside the drum)

Level 1		
Switching point	25 - 39	mm
Overflow	267 - 306	mm

Nominal currents

Contacts		
11 - 12	4 (4)	A
11 - 14	16 (4)	A
11 - 16	1 (1)	A

Door lock

Lock time (20 °C)	3 - 6	s
Unlock time	60 - 90	s
Voltage	230 - 240	V
Rated current:		
Contact 4 - 5	16 (4)	A

Heating element

Heating	Tubular heating element with NTC - sensor	
Rated Voltage	230 - 240	V
Rated power	2050	W
Resistance	22 - 28	Ω

Resistance NTC :

0°C	35.9	kΩ
30°C	9.8	kΩ
40°C	6.6	kΩ
50°C	4.6	kΩ
60°C	3.2	kΩ
70°C	2.3	kΩ
95°C	1.1	kΩ

Inlet valve - Cold/hot fill :

Water temp (max)	60	°C
Rated flow <100 kPa	4	l/min
Pressure range	50 - 1000	kPa
Nominal voltage	220 - 240	V
Frequency	50	Hz
Minimum starting voltage:		
< 600 kPa	160	V
600 - 1000 kPa	170	V
Nominal current	35	mA
Nominal input	6	VA
Nominal (20 °C)	3.4 - 4.5	kΩ

Drain pump (synchronous)

Nominal Voltage	230 - 240	V
Nominal current	0,3	A
Nominal power	34	W
Frequency	50	Hz
Resistor (coil)	155 ± 7%	Ω
Motor protection	170	°C
Capacity(H=1,25m)	14 ± 2	l/min

TECHNICAL DATA (Cont.)**Program timer**

Type SC1

Timer basic 4619 712 52201

Timer programmed 4619 744 80732

Nominal voltage 230 - .240 V

Frequency 50 Hz

Harness Connectors (See circuit diagram)

OA4.1 - OA4.2	5. Option
OA4.3 - OA4.4	6. Option
OB4.1 - OB4.2	3. Option
OB4.3 - OB4.4	4. Option
OC4.1 - OC4.2	1. Option
OC4.3 - OC4.4	2. Option
SLT3.1 - SLT3.3	Temp.selector
SLS4.1 - SLS4.4	Spin speed selector
VCF3.1 - VCF3.3	Valve (cold water)
VHF3.1 - VHF3.3	Valve (hot water)
Pi5.1 =	negative supply
Pi5.2 =	data
Pi5.3 =	clock
Pi5.4 =	positive supply
Pi 5.5 =	negative supply
PL3.1 - PL3.3	Pilot lamp

Connector

M7.1 - M7.7	Motor
DP2.1 - DP2.2	Pump
SET2.1 - SET2.2	NTC
DSS3.1 - DSS3.3	Door switch
PR2.1 - PR2.2	Pressostat

Single connector

HE2.1 - HE2.2	Heating element
PS2.1 - PS2.2	Pressostat
SM3.2 - SM3.3	Mains switch (3 fold connector)

Program 32 positions

Step	Cotton / Colour	Easy care	Delicate	Wool	Silk
Pre wash	02-06	03-06	04-06	-	-
Main wash	07-21	12-21	14-21	17-21	18-21
Rinse	22-28	22-28	22-28	22-28	22-28
Spin	29-31	29-31	29-31	29-31	29-31
Stop	32	32	32	32	32

Speeds

Wash speed	54	rpm
Ramp speed	95	rpm
Spin speed	1000	rpm

Ambient Temperatures

Ambient temperature up to 70 °C

Storage temperature up to 85 °C

Output

Motor M7.6 - DSS 3.2	>40	V
in pump step AQ2.1 -DSS 3.2	240	V
NTC	not measurable	
Pump DP2.1 -DP2.2	240	V
Doorlock DSS3.1 -DSS 3.3	240	V
Pressostat E4 - E2	240	V
- empty PR2.1 - E2	240	V
- full PR2.2 - E2	240	V
Valve (Rast 2,5) V2.1 - V2.2	>170	V
Options	not measurable	
Display module Pi5.1 - Pi5.	5	V
Pi5.4 - Pi5.5	12	V

Motor

Type MCA38/64 - 148 t.f.

WHE 3

Belt ratio i = 1 : 15.9

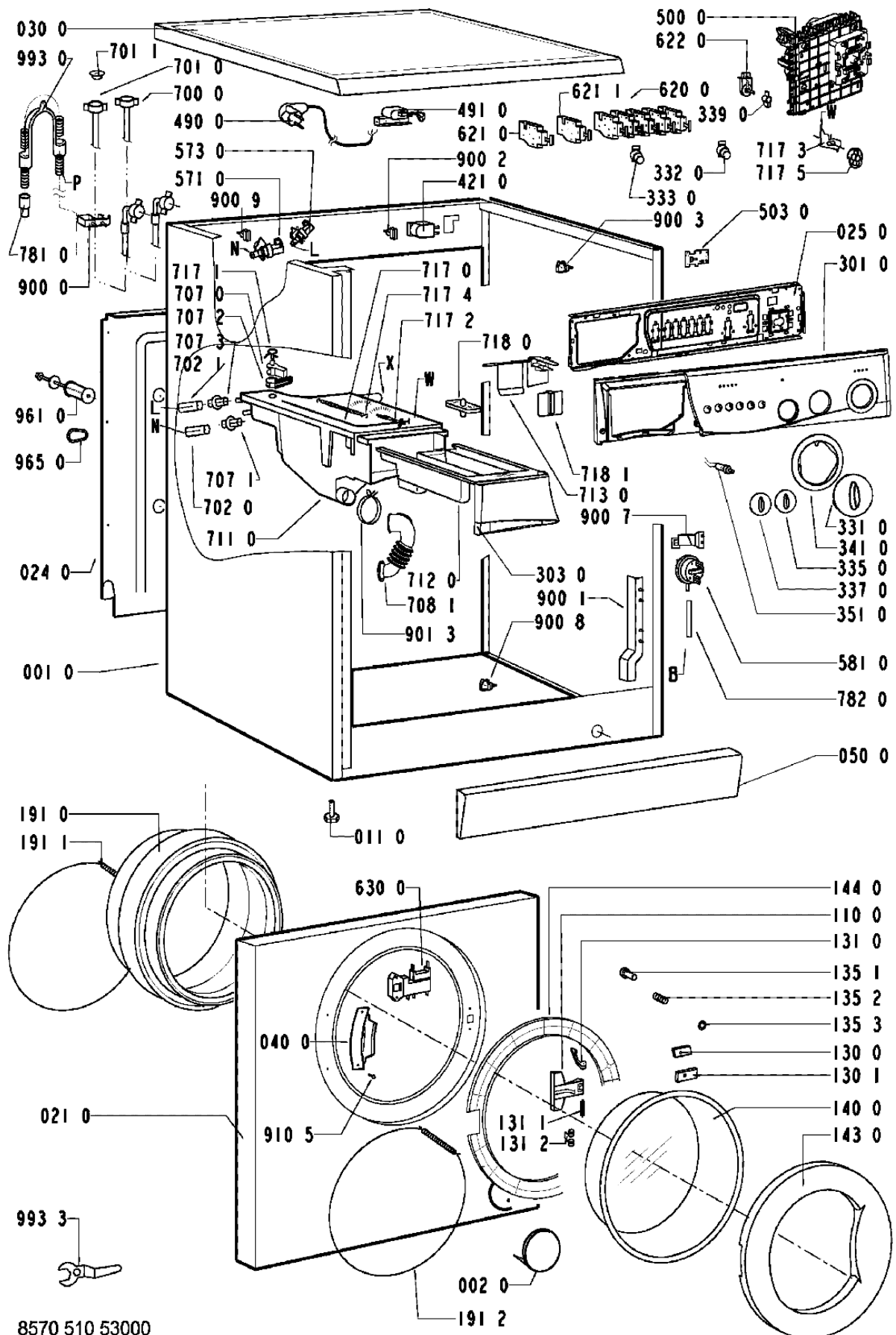
Resistance contacts

6 - 7	$68.7 \pm 7\%$	Ω
4 - 5	$2.25 \pm 7\%$	Ω
2 - 3	$2.04 \pm 7\%$	Ω
1 - 3	$0.84 \pm 7\%$	Ω

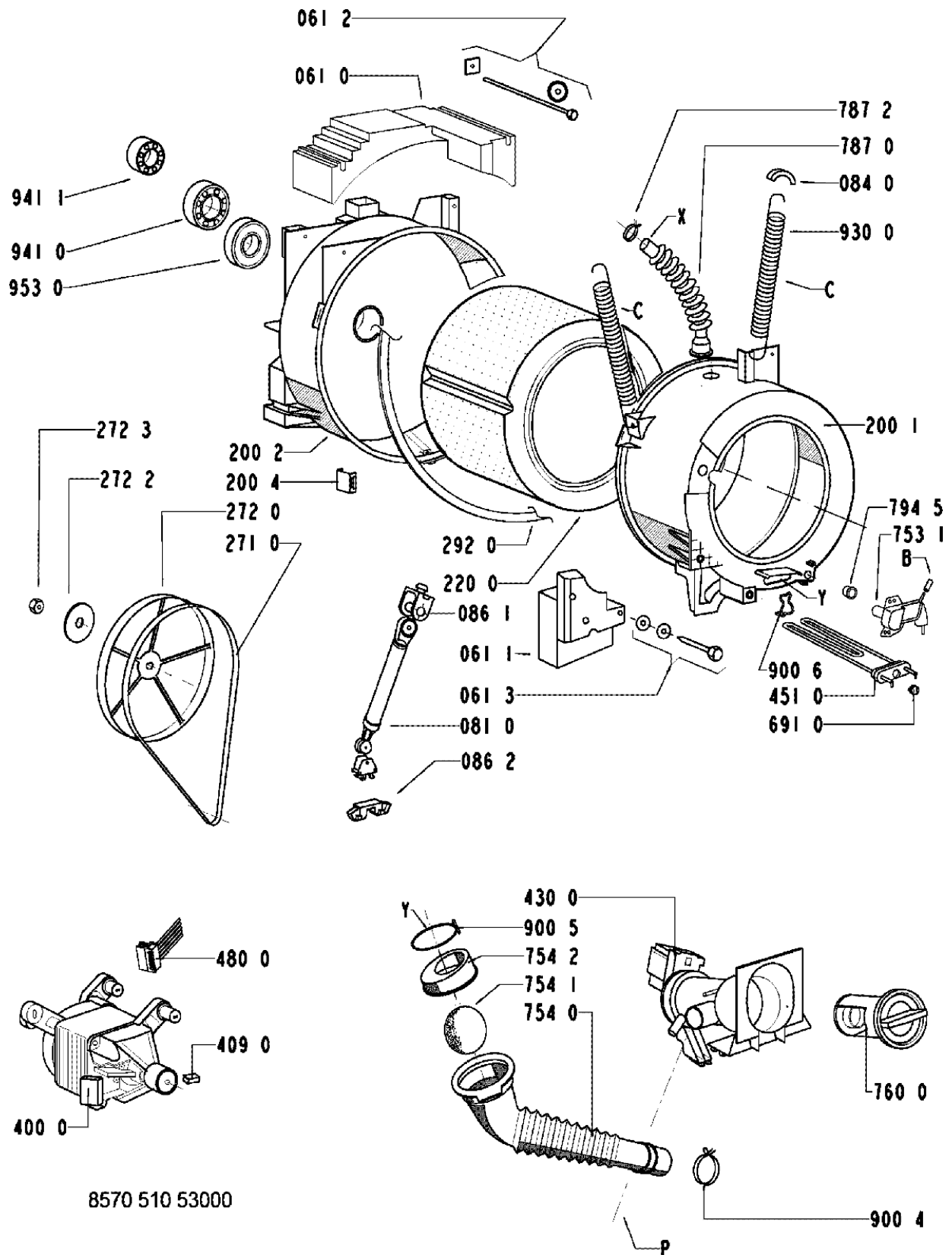
Temperature/Spin Speed Selector Switch

Positions	7	
Nominal voltage	5	V
Value of resistors :		
1 - 2 - 3	internal shunt	
4 - 6	internal shunt	
5 - 6	Position 1	<10 Ω
	Position 2	$0.68 \pm 5\%$ k Ω
	Position 3	$1.10 \pm 5\%$ k Ω
	Position 4	$1.80 \pm 5\%$ k Ω
	Position 5	$2.70 \pm 5\%$ k Ω
	Position 6	$3.60 \pm 5\%$ k Ω
	Position 7	$4.70 \pm 5\%$ k Ω

EXPLODED VIEW - CABINET



EXPLODED VIEW - DRUM



PARTS LIST

Item	Part No	Description
001 0	4819 440 19716	Cabinet
002 0	4812 440 19343	Drain pump flap
011 0	4819 462 48472	Foot
021 0	4819 440 19715	Front
024 0	4812 440 18998	Panel, rear
025 0	4812 440 19817	Support control board
030 0	4812 440 19816	Table top
040 0	4812 417 18787	Hinge
050 0	4819 440 19714	Plinth
061 0	4812 466 88458	Counter weight upper
061 1	4812 466 88459	Counter weight front
061 2	4819 310 39227	Mounting kit, weight top
061 3	4819 310 39228	Mounting kit, weight bottom
081 0	4812 529 18038	Shock absorber upto 1200
084 0	4812 466 58001	Silent block (Suspension spring mount)
086 1	4812 401 18413	Holder Shock absorber
086 2	4812 401 18412	Stopper
110 0	4812 498 18139	Handle, door white
130 0	4812 417 28047	Plate, door lock
130 1	4812 417 28048	Plate, doorlock lower
131 0	4812 417 28046	Lock door
131 1	4812 417 28045	Pin door lock
131 2	4812 492 58022	Spring door lock
135 1	4812 498 18137	Knob door safety
135 2	4812 491 48004	Spring
135 3	4812 290 68153	Holder, adjust. door safety
140 0	4812 450 68219	Door glass
143 0	4812 440 19782	Glassdoor frame VBL WH
144 0	4812 440 19589	Frame, door glass DE-WT
191 0	4812 460 68527	Door bellow standard
191 0	4812 460 68532	Door bellow, grease resistance
191 1	4812 492 18017	Strap
191 2	4819 530 58059	Ring
200 1	4812 418 18226	Tub front
200 2	4812 418 18228	Tub 48l, 600/1000"
200 4	4812 290 88054	Clamp for tub WH
220 0	4819 418 18339	Drum
271 0	4812 358 18056	V-ribbed belt WH 1250 J5
272 0	4812 528 58027	Pulley DIAM.298
272 2	4812 532 18024	Washer
272 3	4812 505 18371	Nut M 12
292 0	4812 530 58101	Gasket Tub
301 0	4812 452 11103	Control panel
303 0	4812 498 78177	Handle, drawer
331 0	4812 414 58104	Knob timer

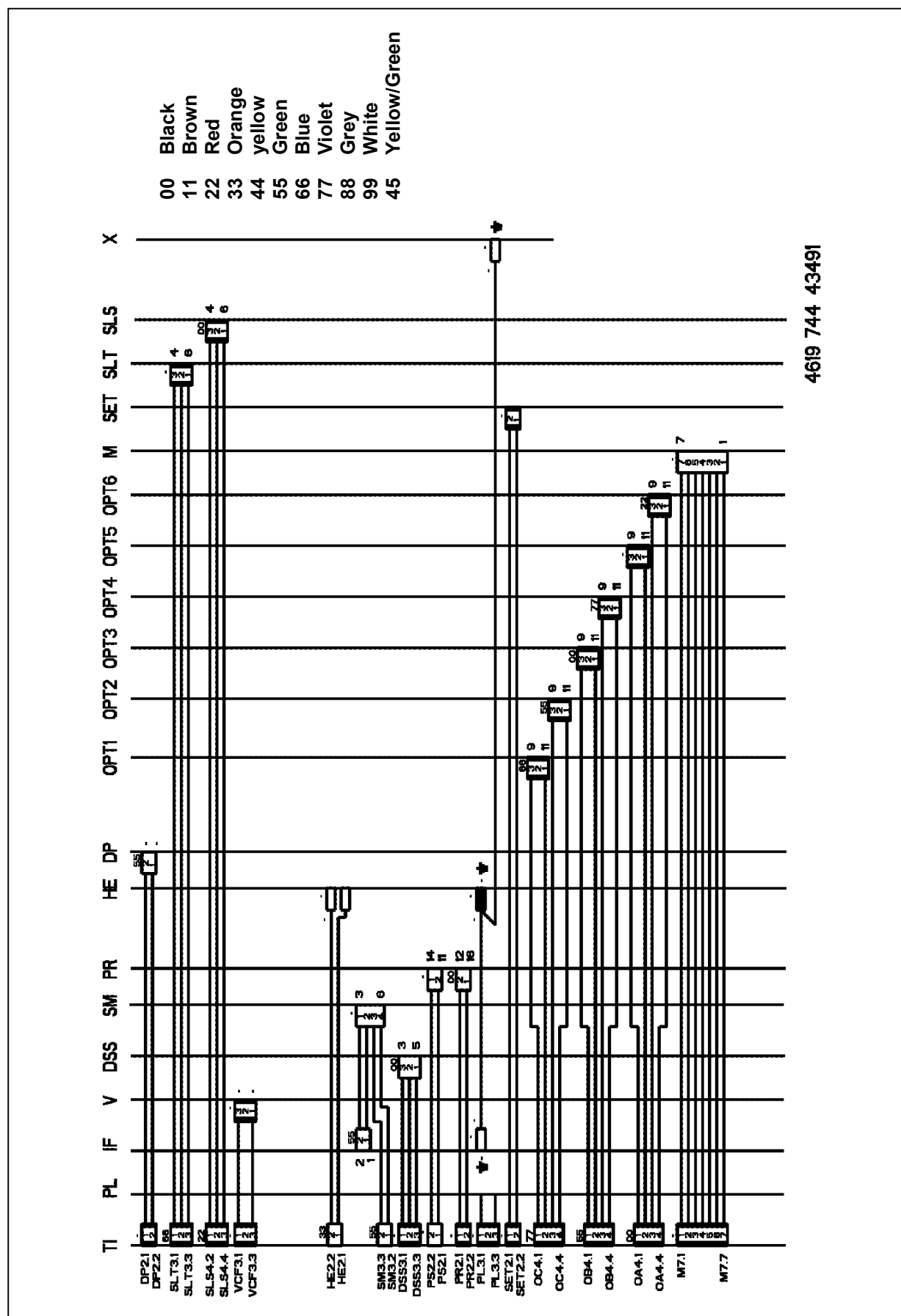
PARTS LIST (Cont.)

Item	Part No	Description
332 0	4812 513 18103	Button options
333 0	4812 513 18104	Button on/off
335 0	4812 414 58107	Knob thermostat
337 0	4812 101 48002	Knob, potentiometer 1000
339 0	4812 413 48305	Adaptor for button
341 0	4812 414 58132	Indication disc
351 0	4812 134 18011	Lamp
400 0	4819 361 58264	Motor MCA 38/64 WHE2
409 0	4812 362 48004	Brush, carbon, motor CESET
421 0	4812 121 18142	Interference filter 1,00 µF
430 0	4812 310 38525	Pump, drain with thermal protection
451 0	4812 259 28765	Heating element 240V with NTC
480 0	4812 321 78109	Cable Motor SC1 PP
490 0	4812 310 18404	Kit cable, mains 5m 3x1,5\
491 0	4812 321 28367	Strain relief
500 0	4812 282 18981	Timer SC1 (DL,EC,RW,IR,RH,EI)
503 0	4812 239 58004	Indication unit time delay 4 LEDS
571 0	4812 281 28382	Valve, magnet cold
573 0	4812 271 28449	Valve, magnet hot
581 0	4812 271 28441	Pressostat
620 0	4819 410 28998	Switch options
621 0	4819 410 29004	Switch ON/OFF
621 1	4819 276 18366	Switch, start
622 0	4812 413 48279	Selector, switch Temperature/Spin
630 0	4812 280 58026	Door lock 3 TABS
691 0	4812 282 18702	Sensor NTC (SC1)
700 0	4812 530 28869	Hose, inlet hot
701 0	4819 530 28848	Hose, inlet
701 1	4819 466 69704	Gasket and filter
702 0	4819 530 29019	Hose internal
702 1	4819 530 28971	Hose, inlet internal
707 0	4812 526 48031	Nozzle distribution
707 1	4812 526 48028	Nozzle
707 2	4812 526 48034	Nozzle hot
707 3	4812 526 48035	Nozzle hot
708 1	4812 530 48143	Bend
711 0	4819 418 79434	Dispenser
712 0	4812 418 68198	Drawer 3 Compartment VBL
713 0	4812 418 88019	Flap detergent container
717 0	4819 321 28092	Bowden cable
717 1	4812 321 38013	Lever, nozzle
717 2	4812 321 38012	Holder, adjustable
717 3	4812 278 88018	Slide
717 4	4812 492 38359	Spring , nozzle
717 5	4812 233 18004	Cam 3 Compartment incl. adaptor

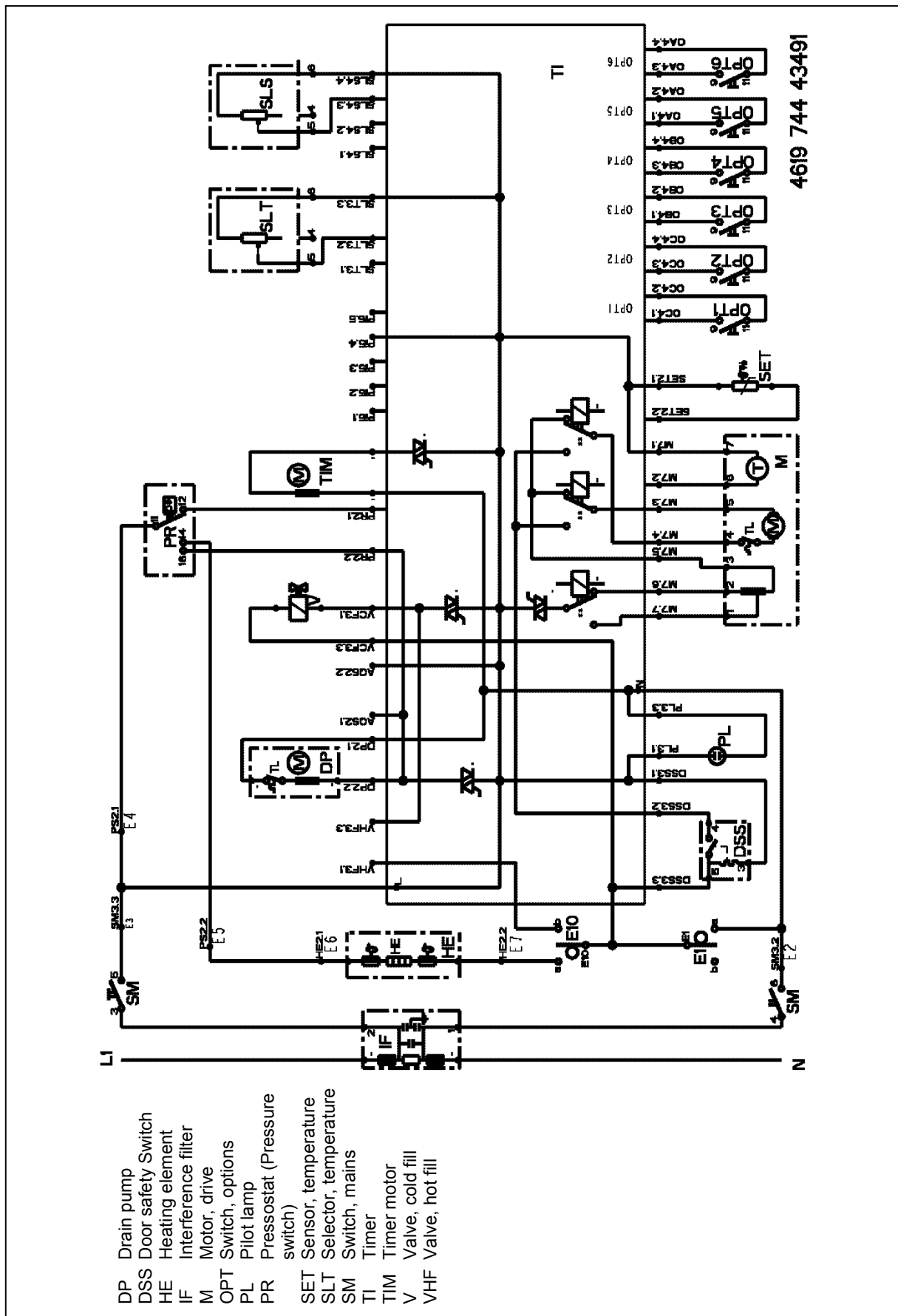
PARTS LIST (Cont.)

Item	Part No	Description
718 0	4812 526 48051	Siphon
718 1	4812 418 88018	Accessory
753 1	4819 418 68234	Chamber, air
754 0	4812 530 28826	Drain hose
754 1	4812 530 28832	Lock eco
754 2	4812 530 28829	Flange eco
760 0	4812 480 58105	Filter set pump
781 0	4819 530 28847	Hose, drain
782 0	4812 530 28827	Hose pressostat
787 0	4812 530 28813	Steam hose
787 2	4819 401 18868	Clamp, hose 26,8 mm
794 5	4812 530 58095	Gasket air trap
900 0	4812 255 18204	Holder hose outlet
900 1	4812 290 88049	Bracket
900 2	4812 290 88077	Cable clamp
900 3	4812 401 18446	Cable clamp
900 4	4819 401 18872	Clamp, hose
900 5	4819 401 18529	Clamp, hose
900 6	4812 401 18444	Support heating element
900 7	4812 255 18205	Holder pressostat
900 8	4819 401 18823	Clamp
900 9	4819 404 78449	Support
901 3	4812 401 18549	Clamp, hose
910 5	4812 502 18516	Screw 4,2 x 13
930 0	4819 492 38139	Spring suspension
941 0	4812 520 28001	Bearing, ball 6205 2Z C3
941 1	4812 520 28002	Bearing, ball 6203 2Z C3
953 0	4812 530 58097	Shaft seal 800-1000
961 0	4819 532 68829	Spacer
965 0	4812 466 68545	Cover BK/WH
993 0	4819 530 29028	Bow
993 3	4812 395 58004	Tool

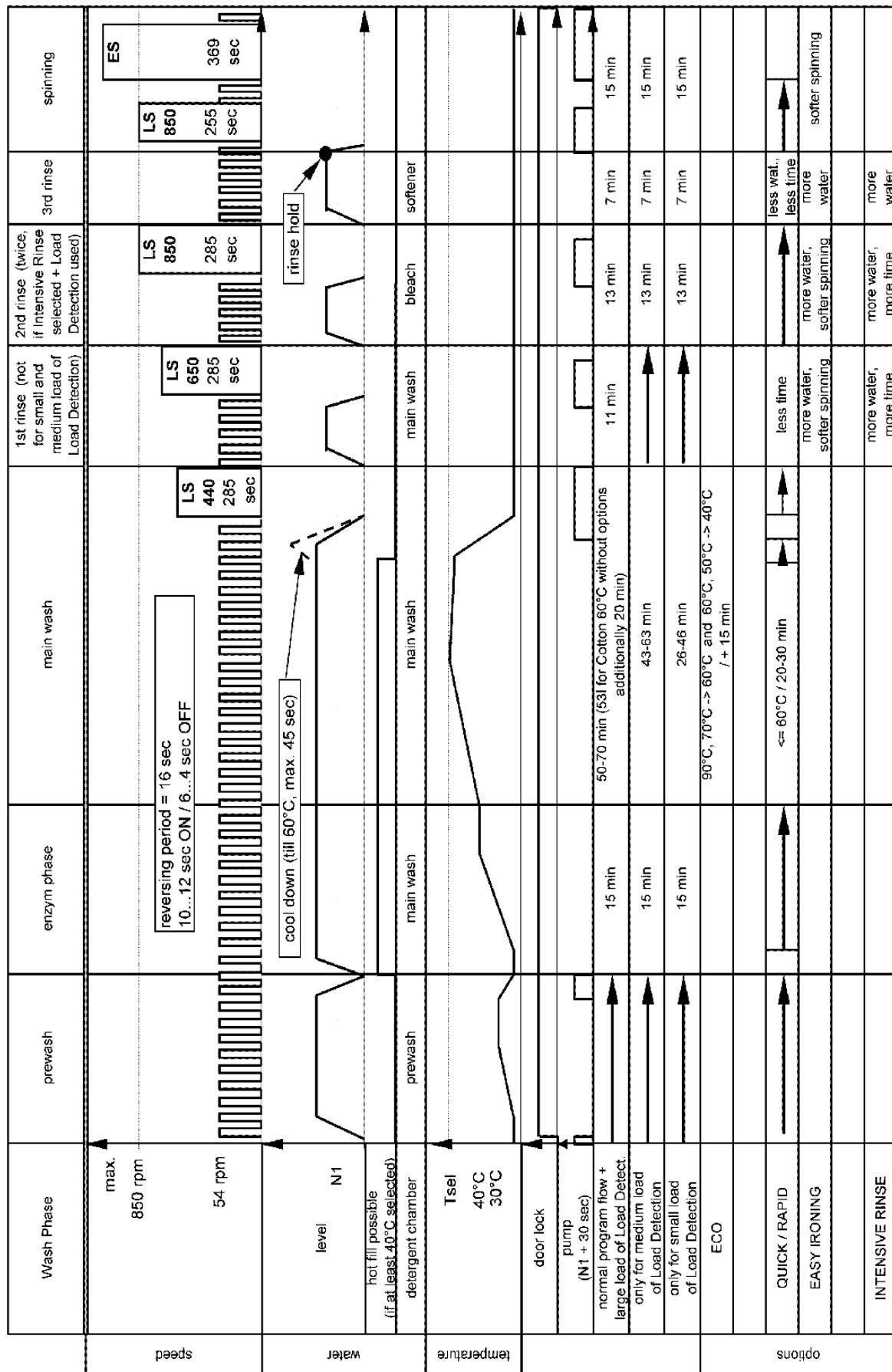
WIRING DIAGRAM



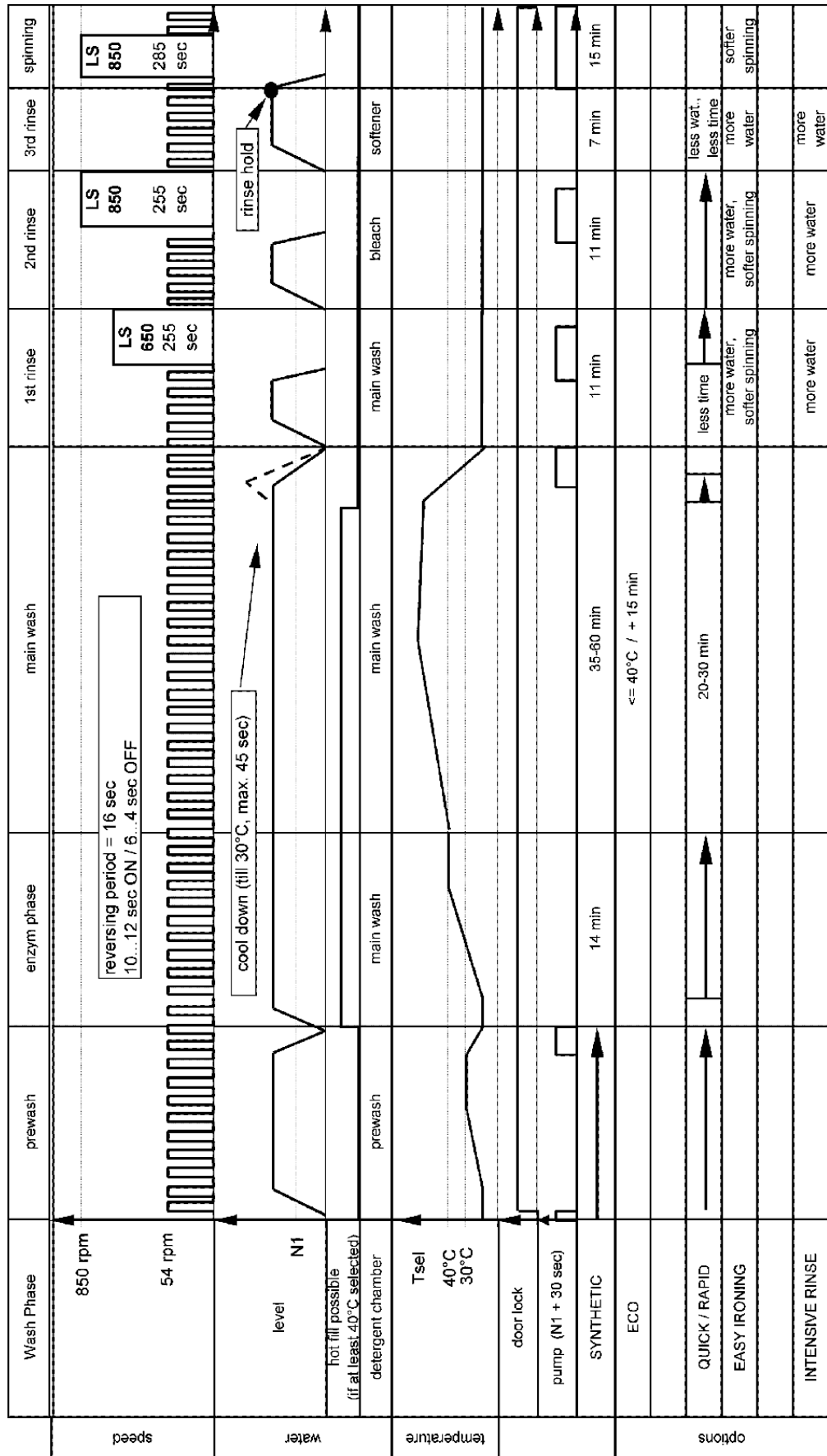
CIRCUIT DIAGRAM



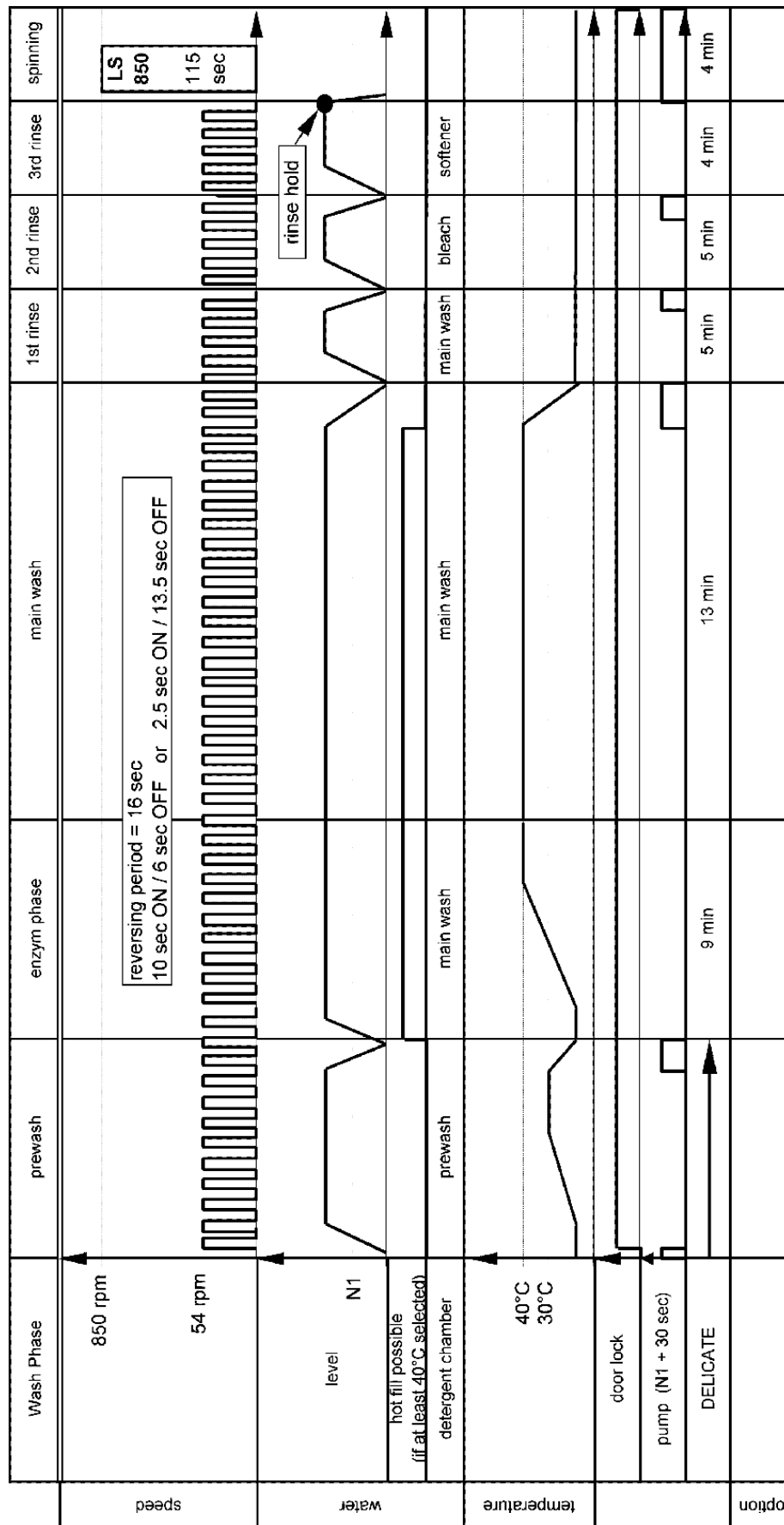
PROGRAM DIAGRAM - Cotton



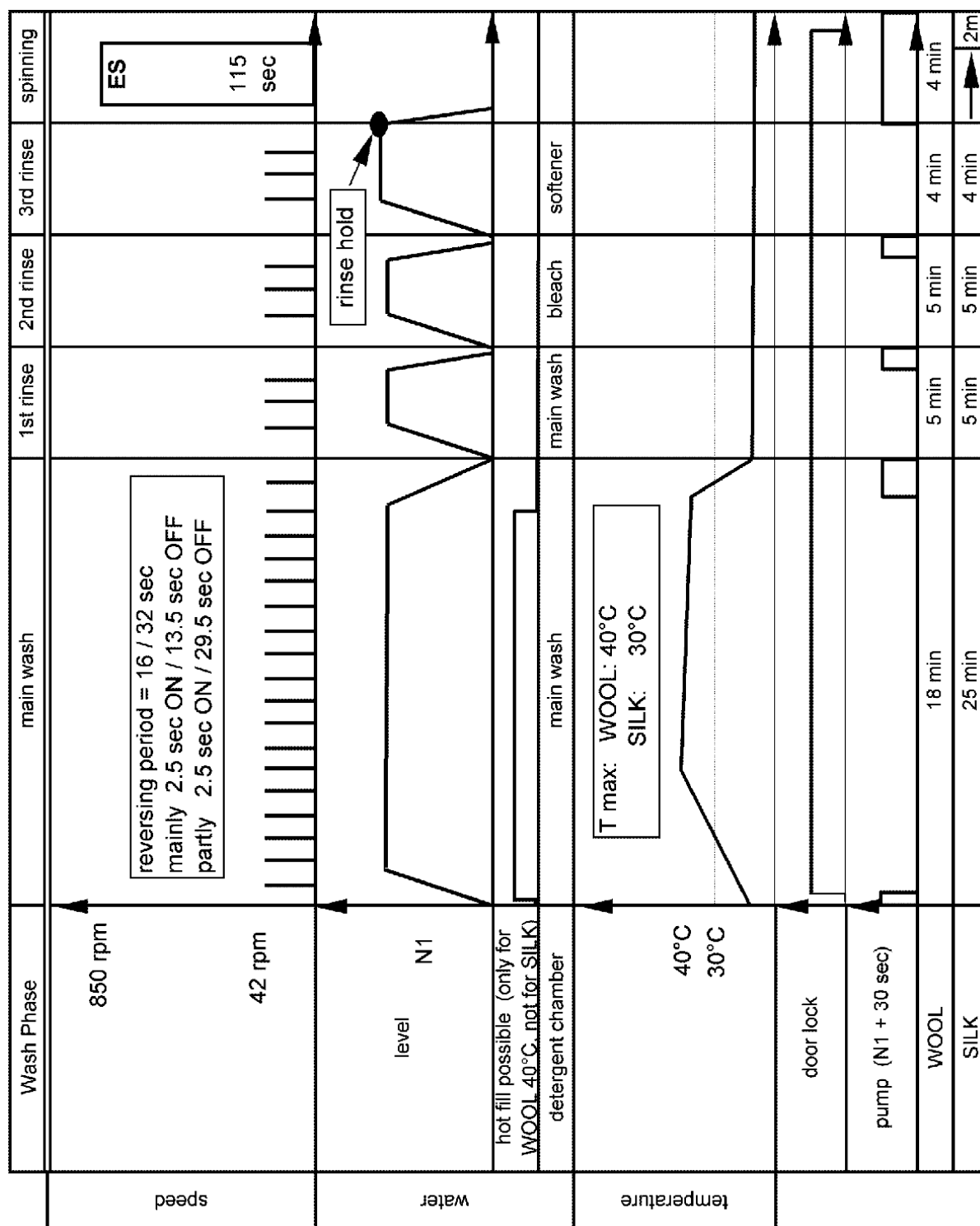
PROGRAM DIAGRAM - Synthetic



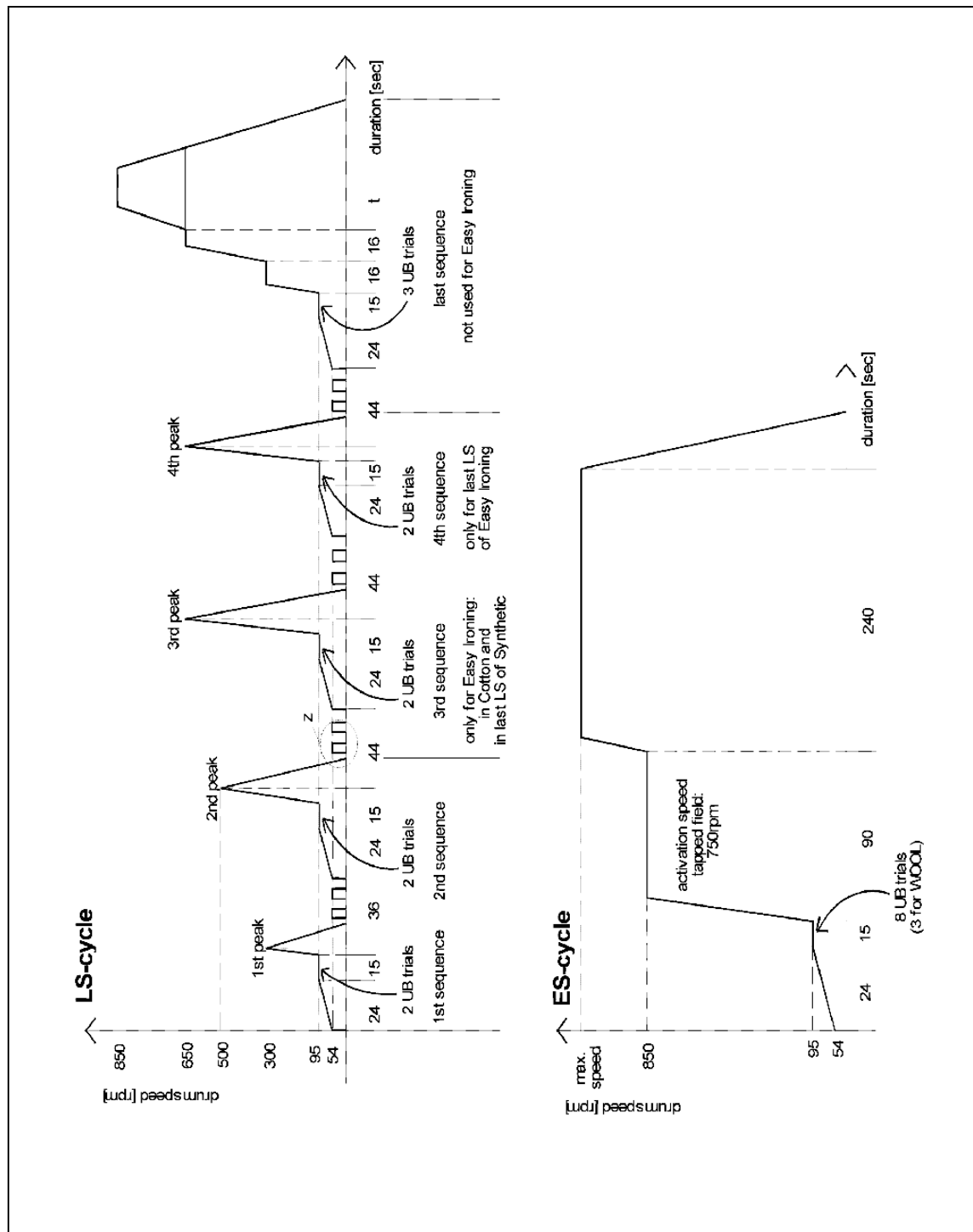
PROGRAM DIAGRAM - Delicate



PROGRAM DIAGRAM - Wool and Silk



PROGRAM DIAGRAM - Spinning Profiles



FAULT DIAGNOSIS

1. The diagnostic tests must be performed on the machine without a wash load because the out of balance detection system is disabled.
2. Ensure the On/Off button is out (Off) and set the timer knob to "D" (Drain)
3. Set Speed control to 1000
4. Set Temperature to 30°C. (May be set higher, see Step 6 in Table over).
5. Press :
 - a) "Eco" button
 - b) "Rapid" button
 - c) "Intensive rinse" button
 - d) "Rinse hold" button
 - e) "Easy ironing" button

These five buttons should now be in.

6. Press the On/Off button in (On) and wait for the pump to start. Allow the machine to pump away any water.
7. Press the "start delay" button twice and the timer will advance to a position between 2 and 3. Each of the time delay indicator LED's will illuminate momentarily in turn. This is Step 1 in the table over

Notes:

1. Each step of the test can be advanced by pressing the button in the next line of the **"Advance to step by pressing :"** column without waiting for the step to complete.

e.g. When the machine starts to fill in Step 1, the Eco button can be pressed to advance to Step 2 without the 60 second fill.
2. Once water has started to enter in Step 6, each subsequent step can be advanced by pressing the Time delay button once.
3. If this method is used for every step, the fill at Step 6 will be warm and not cold.
4. If insufficient water has entered the machine, the pressure switch will not operate and hence the element will not operate. Also if the pressure switch has not operated, the machine will spin with some water still visible in the basket at Step 9.

TEST SEQUENCE

Step	Advance to step by pressing : (See Note 1)	Pump Out or Fill Via :	Temperature	Time	Drum Rhythm	Component(s) Checked	Comments
1	<i>Begin test by pressing Time delay twice</i>	Prewash	Cold fill	60 s (fill)	Stationary	Start delay button, Time delay LED's & NTC	If test fails to start, check NTC or Start button. If Eco button is not pressed, the machine will pump out and stop
2	<i>Eco button once Timer advances past 3</i>	Prewash	Cold fill	60 s (fill)	Stationary	Eco button and prewash fill	If Rapid button is not pressed, the machine will pump out and stop
3	<i>Rapid button once Timer advances 1 step</i>	Prewash	Cold fill, heater on	60 s (fill)	Stationary	Rapid button, heating element, NTC	If Intensive rinse button is not pressed, the machine will pump out and stop
4	<i>Intensive rinse button once. Timer advances 1 step</i>	Prewash	Cold fill, heater off	60 s (fill)	Stationary	Intensive rinse button	If Rinse hold button is not pressed, the machine will pump out and stop
5	<i>Rinse hold button once. Timer advances to 5</i>	Main wash	Cold fill, heater off	60 s (fill)	Stationary	Rinse hold button, main wash fill	If Easy ironing button is not pressed, the machine will pump out and stop.
6	<i>Easy ironing button once. Timer advances to 9 and then past 10 after fill</i>	Main wash	Cold fill, heats to set temperature	60 s (fill)	10 s on, 6 s off	Easy iron button, heater, NTC	If the test is advanced before the completion of each step the drum rhythm will change.
7	<i>Timer advances automatically 3 steps</i>	Main wash	Cold fill, heater off	60 s (fill)	10s on, 6s off	Heater termination	-
8	<i>Timer advances automatically past A</i>	Fabric softener	Cold fill	60 s fill, Pump out	10s on, 6s off	Drain pump	-
9	<i>Timer advances automatically past B</i>	Pump out	-	Pump out	Spin max speed	Main motor	Spin for 300 s, then advances past C, stops 0 led illuminates.

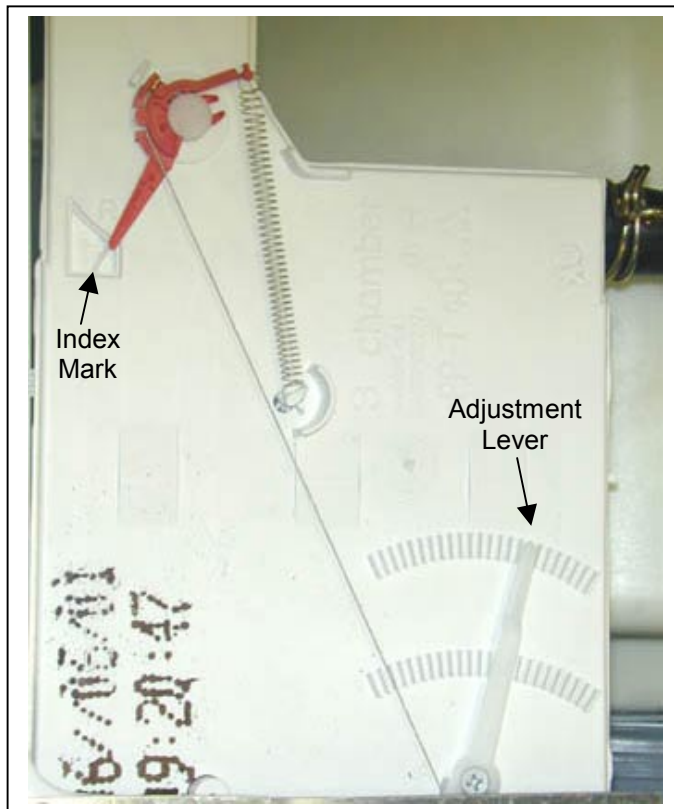
The test sequence can be terminated at any time by pressing the On/Off switch to Off, setting the timer on "D" and pressing the On/Off switch to on. The pump will run and then the timer will rotate to the Stop position.

If a failure is detected during the test sequence the timer will :

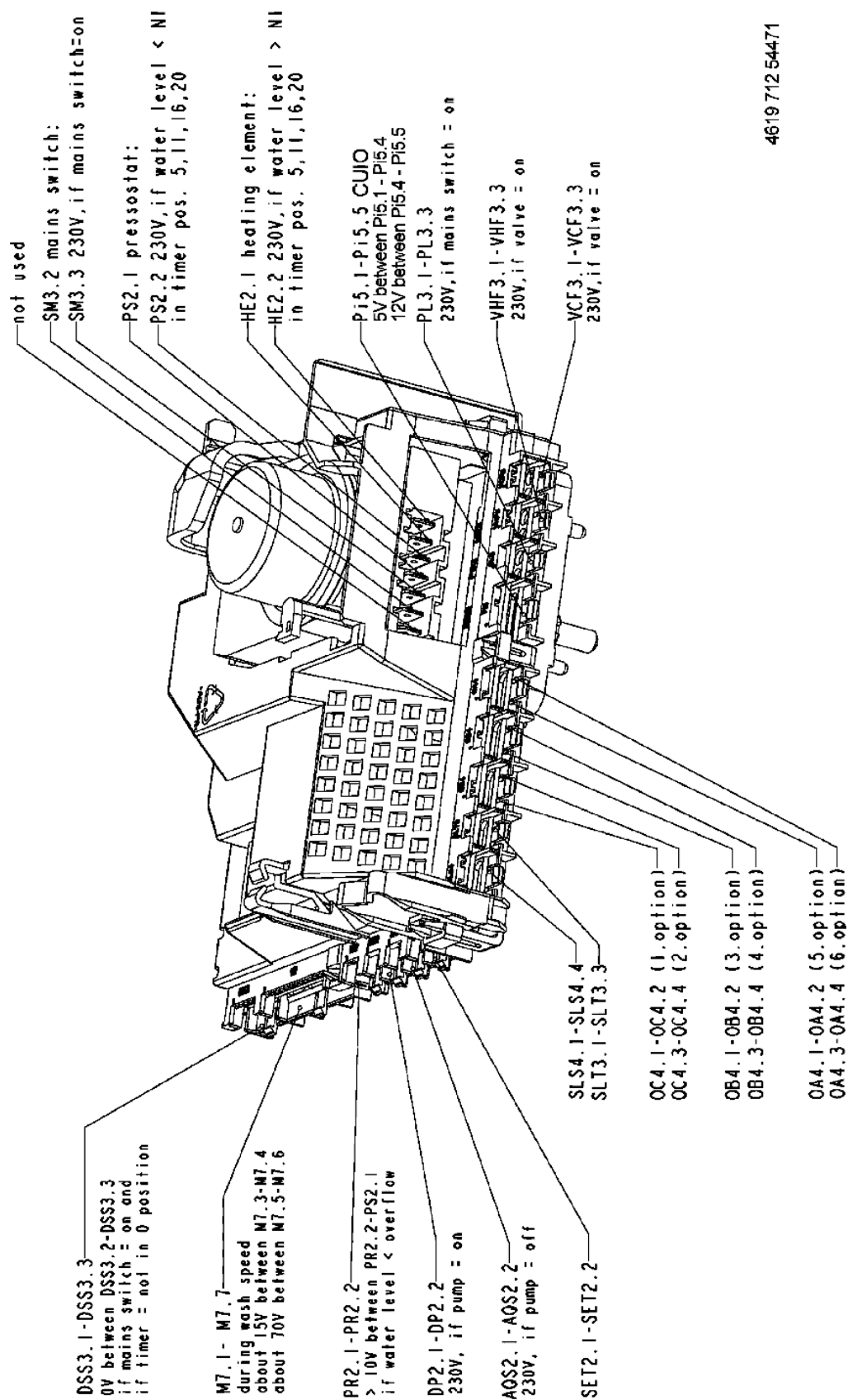
1. Initiate the safety step routine :
 - A. Drain pump runs until pressure switch resets plus 30 seconds.
 - I. Main motor is turned off.
 - II. Water inlet valves are turned off.
 - III. Element is turned off
2. Stop the machine but does not give a visual signal to indicate a fault.

ADJUSTING DISTRIBUTION NOZZLE

1. Select any COTTON wash cycle with the prewash off and wait until water begins to enter machine.
2. Turn the machine off at the power point.
3. Remove the machine lid.
4. Adjust the lever until the red pointer is over the index mark.
5. Replace the machine lid, turn on the power, open the detergent drawer slightly and make sure that water is only entering the main wash (middle) compartment and that no water is entering the fabric softener compartment.



TIMER CONNECTIONS



4619712 54471